MT MOLLOY PROJECT

Hodgkinson Province, North QLD

EPM 12998 Mt Molloy

ANNUAL REPORT

For
12 month period ending 23rd June 2008

(Second Term)

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Current Holders: Ozmin Resources Pty Ltd

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1.0 Summary

EPM 12998, Mt Molloy, was granted to Ozmin Resources Pty Ltd on the 24th May 2006 and covers 37 sq km. The tenement covers an area of predominately deformed metasediments of the Hodgkinson Formation and Molloy beds of the Palaeozoic Hodgkinson Province.

Mineralisation was discovered at Mt Molloy in 1883, during which time minor mining of oxidized ore took place until 1902. The main mining period was from 1905-1907. Records suggest 44, 000 tons of ore was mined producing 3800 tons of copper metal at 8.7%. Modern exploration took place from the mid 1960's, with previous work by exploration companies indicating a small prospective resource exists, with the best drilling intercept yielding 11m at 5.8% Zn, 2.6% Cu, 42g/t Ag and 0.23g/t Au. Mt Molloy has been classified as a modest high grade Besshi-type VHMS deposit by previous workers.

Work conducted by Ozmin Resources Pty Ltd during the second term includes data compilation, geological reconnaissance, soil sampling and a five (5) hole diamond drilling program and includes work on Mining Lease (ML) 4831 "Mt Molloy Copper Mines".

2.0 Introduction

The Mt Molloy Project, EPM 12998 including ML 4831, covers an area approximately 37 sq km dominated by predominately Early to Late Devonian Hodgkinson Formation. The Mt Molloy copper-zinc deposit is located 3km south-west of the Mt Molloy Township and is hosted within the Devonian Molloy beds.

Work conducted during the second term by Ozmin included further data compilation, field geological reconnaissance, soil sampling and a five (5) hole diamond drilling program.

2.1 Tenure

EPM 12998, Mt Molloy, was granted to Ozmin Resources Pty Ltd, commencing the 24th May 2006 for a period of five (5) years until 23rd May 2011.

An 8 ha mining lease 'ML 4831 Mt Molloy Copper Mines' is located within EPM 12998, and was renewed on the 12th April 2007 to Ozmin Resources Pty Ltd for a period of 10 years expiring on 31st October 2017.

Ozmin submitted an application to the Department of Mines and Energy on 9 May 2008, to vary the conditions of EPM 12998. The application requested Ozmin retain 100% of the remaining 11 sub-blocks comprising EPM 12998 for an ensuing twelve month period. The authorised delegate of the Minister approved the variation to the relinquishment conditions on 19 May 2008 for Year 3 from 10 sub-blocks to 11 sub-blocks.

The 11 sub-blocks renewed **(Figure 1.)**:

BIM	Block	Sub-blocks
Town	592	k, n, o, p, s, t, u
Town	593	f, l, q, v

All conditions of the permit for term 2 were met.

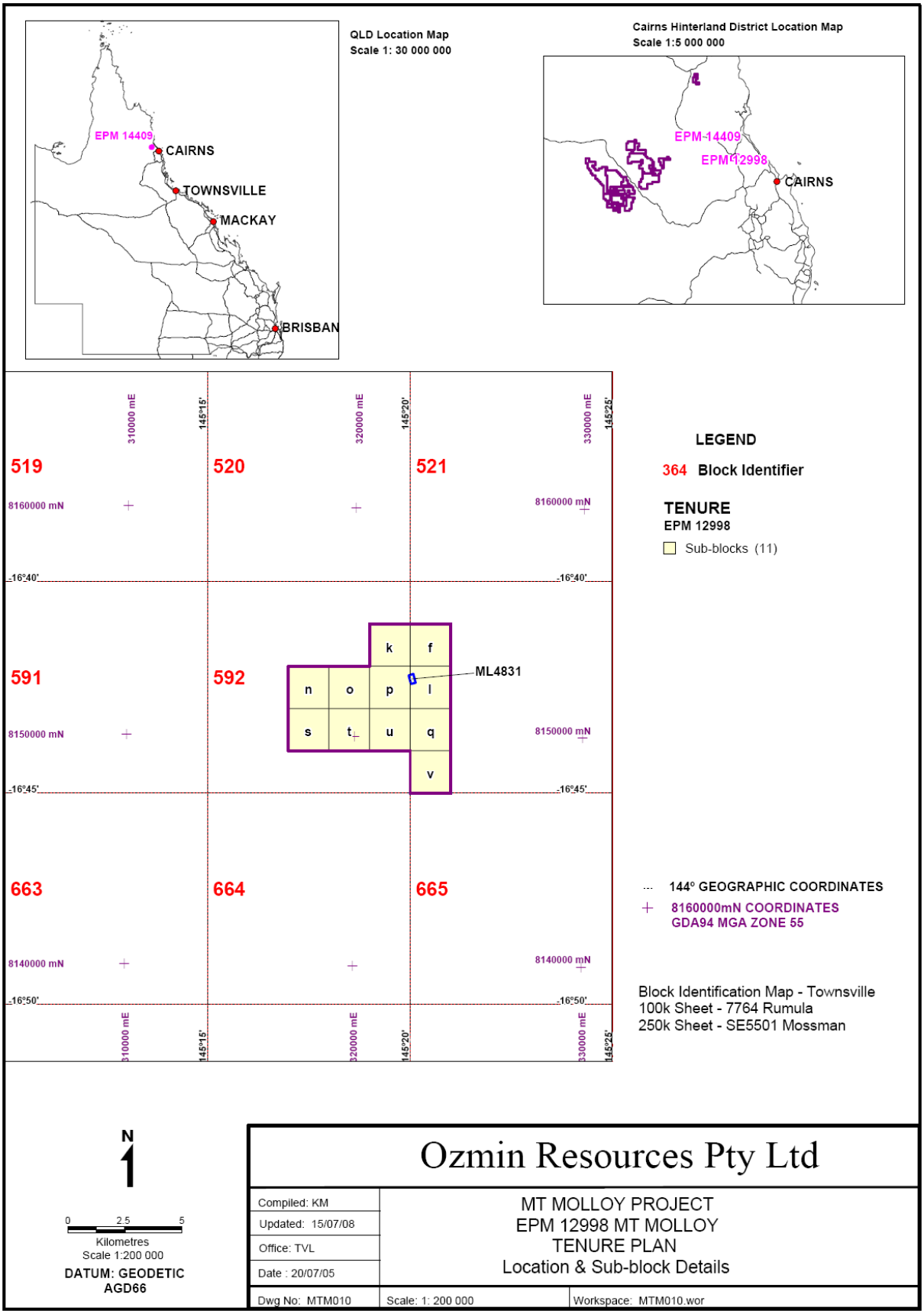

Figure 1. EPM 12998, Mt Molloy sub-blocks details

2.2 Location, Access and Topography

EPM 12998 is located approximately 160km northwest of Cairns and 40km north of Mareeba in North Queensland, Australia, and encompasses the Township of Mt Molloy **(Figure 2)**. Access is via the Peninsula Development Highway. Tracks occur throughout the tenement enabling 4WD vehicle access.

The tenement area experiences a climate typical of inland tropical North Queensland, undulating open savannah ranges bordering tropical rainforest of the coastal ranges to the east. The wet season, roughly December to April brings with it monsoonal rains which sometimes cuts access north and south along the Peninsula Development Highway. Map coverage includes the Rumula (7964) 1:100 000 and the Mossman 1:250 000 map sheets.

2.3 Environment and Rehabilitation

Pre-existing tracks into and surrounding the Mining Lease (ML) were renovated using a front end loader. Vehicular access was via existing tracks, no new tracks were created. Existing drill pads were utilised and renovated using a dozer and front-end loader for four (4) of the diamond drill holes of the 2007 drilling program. One (1) new pad had to be prepared for drill hole MM07DD02, ensuring disturbance was constrained. No infrastructure development was carried out during the second period.

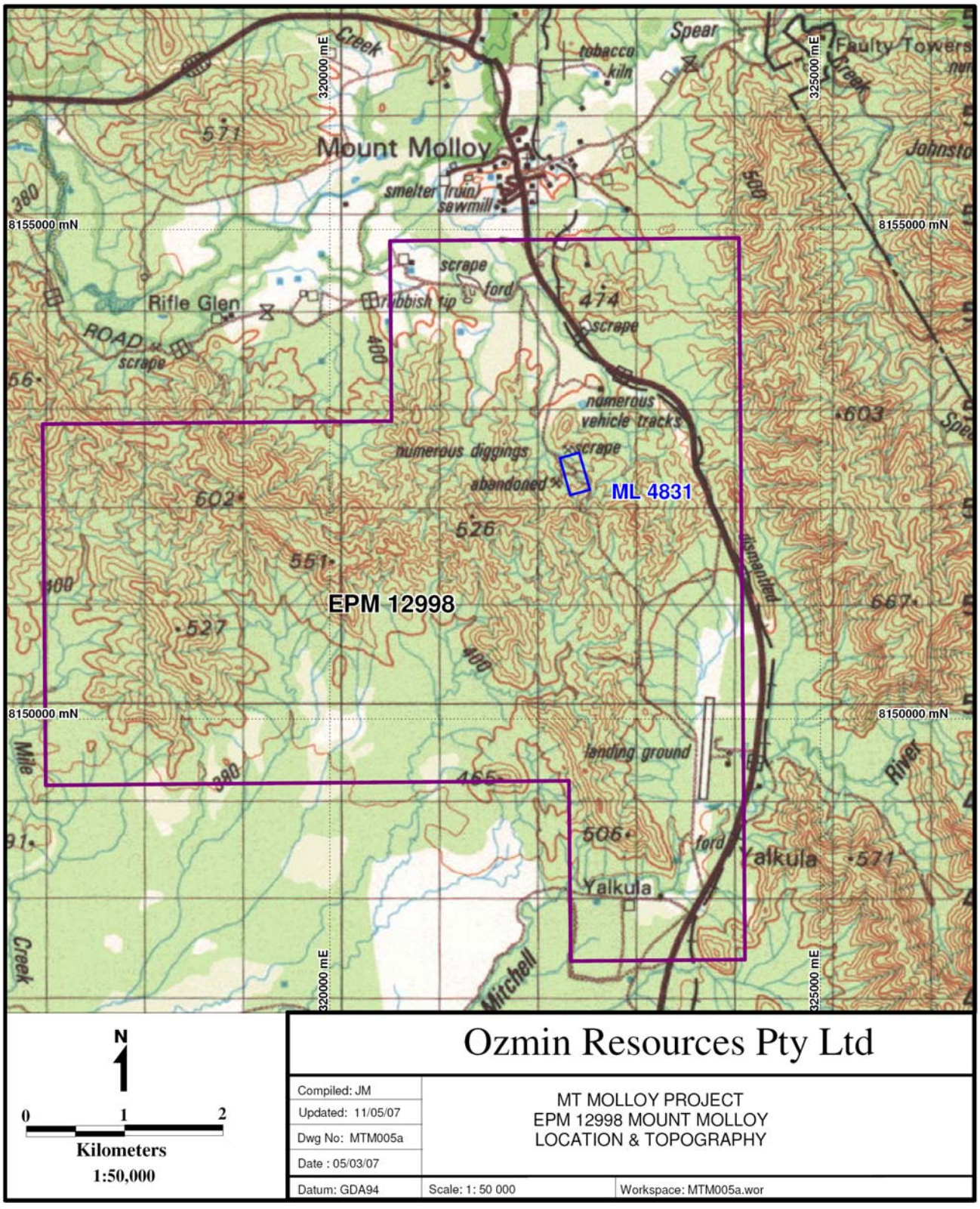

Figure 2. EPM 12998, Mt Molloy location and topography map, North Queensland, Australia

3.0 Geological & Exploration Background

3.1 Geological setting & Mineralisation

Mineralisation was discovered at Mt Molloy in 1883, during which time minor mining of oxidized ore took place until 1902. The main mining period was from 1905-1907; however it was briefly re-worked by a syndicate in 1918 and again in 1941-1942. Production figures are incomplete, though records suggest 44, 000 tons of ore was mined producing 3800 tons of copper metal at 8.7%.

The Mt. Molloy copper-zinc deposit is hosted within Late Devonian to early Carboniferous Molloy beds (Cranfield & Hegarty, 1989) of the Hodgkinson Province **(Map 1)**. The early to middle Palaeozoic Hodgkinson Province forms an extensive belt approximately 500km long and 150km wide occupying the most northern component of the Tasman Orogenic Zone. The province displays a complex structural history and is impeded by poor stratigraphic differentiation and age control from which, contrasting tectonic interpretations by various workers has created much controversy and debate over its evolution. Several models have been proposed for its evolution, however the most recent work (Vos *et al.*, 2005; McNeich, 2006) favour an extensional setting (rifted continental margin and extensional back-arc basin) based predominately on basalt geochemistry.

The Molloy beds, first recognised by Cranfield & Hegarty (1989), have been interpreted as a fault bounded package of rhythmically interbedded arenite, siltstone and mudstone previously thought to be part of the Hodgkinson Formation, but distinguished by significant lithological and structural differences. The currently accepted interpretation of the Molloy beds is as a deep marine turbidite sequence which may represent a later depositional stage within the Hodgkinson Formation.

Sub-ophitic dolerite sills locally intrude the Molloy beds around the old mine workings. They have been interpreted by Gregory (1998) to be folded, post mineralisation and essentially confined to the stratigraphic hanging wall sequence above mineralisation. Geochemical work by Gregory (1977) and McNeich (2006) on the dolerites from the Molloy beds and basalts within the Hodgkinson Province have shown that a distinctive chemistry is evident in all, particularly marked U, Th depletion signatures, which are unique to basalts of the North Queensland region (McNeich, 2006). The homogeneous and evolutionary nature of the basalt chemistry indicates that all the basalts have formed from a similar mantle source. McNeich (2006) was able to determine from basalt geochemistry that the Molloy beds are actually a younger package of rocks than the Hodgkinson Formation, indicated by the evolving nature of a back-arc basin (BAB). This is also confirmed by Ce/Y ratios of the basalts, which determine the thickness of the crust at the time of basalt emplacement. The Hodgkinson Formation yields a maximum crustal thickness of 18km at the time of basalt emplacement, whereas the Molloy beds yield a maximum crustal thickness of 10km. This allows a tectonic model to be determined, showing the progressive thinning of the crust from Early Devonian to early Carboniferous (18km - 10km).

Gregory (1977) classified the deposit as Besshi-type VHMS which consists of two massive stratiform sulphide lenses, one Cu-rich (chalcopyrite-pyrite), and one Zn-rich (sphalerite-pyrite-chalcopyrite) within interbedded mudstones, siltstones and sandstones of the Molloy beds. Mineralisation sits on the eastern limb of the Molloy basin anticline

(axial closure just west of mine) and occurs within 50-80m vertical intervals in shales and interlaminated sandy bands which overlie the breccia-siltstone sequence and below the dolerite sills. Gregory (1998) suggests that exhalation and/or replacement took place after the cessation of volcanic activity when hydrothermal activity, perhaps driven by high thermal flux dominated. High heat flow was long lived due to intrusions of dolerite sills (marker units). The mineralisation is thus inferred to be:

1) Brine pool related if ore fluid reached the seas floor and was more dense than sea water
2) Mineralising fluid moved up fault conduits into unconsolidated sediments in several pulses and caused silicification and replacement of host sediments with formation of some massive sulphide lenses close to the conduit(s), and extensive disseminated and vein mineralisation away from it. Cu-Zn mineralisation suggests derivation from a mafic source.

3.2 Exploration History

Modern Exploration of the area commenced in the mid 1960's and continued periodically until 1999. The lack of understanding of the structural complexities and overall genesis of the deposit has resulted in an unsuccessful search for more sulphides via exploration. The main phases of modern exploration have been:

- 1968 – Glinderman and Kitching drilled one diamond drill hole (DD1) to a depth of 188m to test the extensions of the ore body. The hole intersected low grade mineralisation, however assays and geological records are not available.

- 1970-71 – Command Minerals conducted geological mapping, soil sampling and an IP survey. Five geochemical anomalies and an unidentified number of IP anomalies were located over the old mine workings and ~500m to the north.

- 1970-75 – Mareeba Mining gained control of the mining leases and carried out regional geological mapping, stream and soil geochemistry and dipole-dipole IP. Mareeba Mining took up a short-lived Joint-venture (JV) with Utah Development in 1973 and established a 50m x 50m grid over the mine. This grid served as the base for all of the work on the mine by Mareeba and other companies up until Ozmin acquired the tenement in 2006. Mareeba Mining in association with the Petroleum and Energy Authority drilled one diamond hole (DMM 1) to test the depth continuation of mineralisation north of the No. 4 shaft. Only disseminated and vein mineralisation were obtained in a down dip direction from mineralisation in the old workings. The drill hole intersected a volcaniclastic siltstone-basalt breccia unit which can be correlated with mineralised footwall units north of the old workings in holes drilled by Swiss Aluminium (DMM 2, DMM 3, DMM 4) (Gregory, 1998).

- 1973-74 – Kennecott Exploration Australia explored AtP 1237M, conducting regional mapping, stream and rock chip sampling and a V.E.M turam survey. Seven poor-moderate conductors considered to indicate narrow, steeply dipping bodies were located. All of the anomalies were interpreted to be closely associated with pyritic chert horizons. It was concluded that the area had only limited potential for a small high grade deposit on the basis of low order geochemistry and a poor geophysical response.

- 1973-76 - Peter Gregory undertook a PhD study on the geology and mineralisation of Mt Molloy. He concluded the mineralisation was of Besshi-type VHMS. This was supported by detailed geological mapping and geochemical sulphur isotope work of the ore found in the mine dumps. His PhD is entitled 'Geology of the Mt Molloy and Dianne massive sulphide deposits, Hodgkinson Province, North Queensland'.

- 1978-79 - Swiss Aluminium Mining Australia Ltd (Samaust) conducted a thorough exploration program consisting detailed geological mapping, stratigraphic shallow percussion drilling (1442.2m - 34 holes), deep percussion drilling (754m - 6 holes), diamond drilling (500m - 4 holes) and a trial pulse electromagnetic survey (PEM). From work conducted they concluded that:

    - The stratiform Cu-Zn mineralisation is restricted to a synclinal basin some 1600 metres wide, open to the south, and narrowing to 1 kilometre to the north of the mine area. The basin is underlain by coarse volcaniclastics and greywacke.
    - Mineralisation is stratigraphically controlled and restricted to an interbedded pyritic black shale/quartzite area.
    - The prospective horizon outcrops in a semi-continuous fashion on the western flank of the synform. Pits and gossans and the mine workings occur here. The same horizon has been determined on the eastern flank and is again associated with old workings.
    - Doleritic bodies are abundant and have complicated the structure.
    - The shallow percussion drilling program defined the geological setting in which the massive sulphide mineralisation occurs.
    - Samaust pulled out of all Australian exploration in 1980.

- 1982-83 - BHP Pty Ltd / CRA Exploration Ltd explored on AtP 2737M for alluvial Cassiterite deposits and base metals. They conducted a reconnaissance stream sediment and rock chip sampling program. Elevated copper values were only obtained from streams and rock chips around the vicinity of the old mine workings. Little else is known of this program.

- 1984-85 - Noranda Australia Ltd conducted geological mapping, rock chip sampling, ground magnetic and PEM surveys, and drilled six percussion holes (NPDH-1 – NPDH5). Drilling was designed to test un-stoped areas of the workings and follow up PEM anomalies. The best results were recorded in NPDH-5 **(Table 1)** with massive sulphide being intersected over 11m. Further work was recommended, though never eventuated.

- 1989 - Cyprus Gold Australia Corporation drilled five RC holes (MRC-1 – 5) which failed to locate any significant massive sulphide mineralisation of interest. No further work was recommended.

- 1989-90 - CRA Exploration Ltd acquired EPM 5801 and 5802 on 15 March 1989, targeting epithermal gold and base metal sulphide mineralisation. After a review of stream sediment data from all CRA tenements in the Hodgkinson basin, it was concluded that the low level anomalies defined in these tenements (1.0 - 5.0 ppb Au in BCL) do not warrant follow up. The tenements were surrendered on 23 October 1990.

- 1989-90 - Geological Survey of Qld (GSQ) drilled one diamond drill hole to a depth of 236m, to determine the stratigraphy of the Molloy beds. However, it did not achieve its aim of reaching basement as the Molloy beds are inferred as being >400m thick. No mineralisation was intercepted.

- 1994-99 - Rimfire Pacific N.L. / Axis Mining carried out a literature research review, air-photo interpretation geology, field geological traverses, rock chip sampling, prospect gridding and mapping, mullock dump mapping/sampling, channel chip sampling and petrological studies. They concluded there is a possibility for a small oxidised copper resource in the mineralised zone striking south from the main shaft at the old mine. However, due to the need to prioritise projects when funding was limited, the tenure was relinquished.

3.2.1 Previous drilling

Historical drilling mainly occurred within the ML, targeting down-dip extensions of the previously mined massive sulphide mineralisation. The most significant intercept yielded 11m at 5.3% Zn, 1.2% Cu, 42g/t Ag, and 0.23g/t Au. Fifty eight drill holes drilled by three exploration companies failed to recognise any further potential for massive sulphide mineralisation at Mt Molloy, conclusions reached by each are listed below.

Glinderman & Kitching (1968)

- Drilled one diamond drill hole (DD1) to a depth of 188m to test the extensions of the ore body. The hole intersected low grade mineralisation, however assays and geological records are not available.

Mareeba Mining (1974)

- Mareeba Mining in association with the Petroleum and Energy Authority drilled one diamond hole (DMM 1) to test the depth continuation of mineralisation north of the No. 4 shaft.
- Only disseminated and vein mineralisation was intersected in a down dip direction from mineralisation in the old workings.
- The drill hole intersected a volcaniclastic siltstone-basalt breccia unit which can be correlated with mineralised footwall units north of the old workings in holes drilled by Swiss Aluminium (DMM 2, DMM 3, DMM 4).

Samaust (1978-79)

- Drilled thirty five shallow percussion holes & six deep percussion holes (PDH-D - L, PDH-1 – 25, SPDH-1 - 6) and four diamond drill holes (DMM-2 – 5).
- The stratiform Cu-Zn mineralisation at Mt Molloy is restricted to a synclinal basin some 1600 metres wide, open to the south and narrowing to 1 kilometre to the north of the mine area. The basin is underlain by coarse volcaniclastics and greywacke.
- The mineralisation is stratigraphically controlled and restricted to an interbedded pyritic black shale/quartzite area.
- The prospective horizon outcrops in a semi-continuous fashion on the western flank of the synform. Pits and gossans and the mine workings occur here. The same horizon has been determined on the eastern flank and is again associated with old workings.
- Dolerite sills are abundant and have complicated the structure.
- The shallow percussion drilling program defined the geological setting in which the massive sulphide mineralisation occurs.

- Drill hole assays can be found in Mt Molloy copper-zinc Prospect North Queensland (CR6809).

Noranda (1984-85)

- Drilled six percussion holes (NPDH-1 – NPDH5). Drilling was designed to test un-stoped areas of the workings and follow up PEM anomalies. The best results were recorded in hole NPDH-5 with massive sulphide intersected over 11m. Further work was recommended, though never eventuated.

Cyprus Gold (1989)

- Drilled five RC holes (MRC-1 – 5) which failed to locate any significant massive sulphide mineralisation of interest to Cyprus. No further work was recommended.

Table 1. Most significant historical drill hole intercepts

Hole No.	Intersection (m)	Interval (m)	Cu (%)	Zn (%)	Ag (g/t)	Au (g/t)	Pb (%)
MRC-1	26-36	10	0.8	1	5	-	-
	incl. 30-34	4	1.1	1.7	8	-	-
MRC-3	52-56	4	0.8	0.2	-	-	-
NPDH-1	70-86	16	-	0.31	-	-	-
NPDH-2	n/a	n/a	0.33	0.68	-	-	0.035
NPDH-5	62-83	11	**2.6**	**5.3**	**42**	0.23	-

4.0 Exploration Work

During the twelve month period ending 23 June 2008, data compilation, field reconnaissance, soil sampling and a five hole diamond drilling program was conducted. The details of each program are listed below.

4.1 Data compilation

Data compilation during this period involved locating historical drill hole collars, shafts, workings/pits and tracks around the main mine workings at Mt Molloy using a Differential Global Positioning System (DGPS). DGPS is an enhancement to Global Positioning System (GPS) that generates co-ordinates at sub 10cm accuracy. The use of this system was employed to help map production. Accurate shaft location was a critical part of being able to determine the exact locations of the Mt Molloy underground workings, which consequently enable drill hole design to be maximised. A 3D model was produced using Discover 3D, incorporating all historical drill holes, their assays and their relation to the historical underground workings.

4.2 Field reconnaissance

Reconnaissance was centred around the ML and previously unexplored areas within the EPM that display significant magnetic and structural affinities with the Mt Molloy deposit. The aim was to gain an initial impression of the geological and structural complexities associated with aeromagnetic imagery. The main outcomes of this work are indicated below.

Reconnaissance mapping around and beyond the ML indicated gossanous outcrops with some localised secondary copper staining which extends along strike, both in a south-easterly and north-westerly direction from the main workings. Geological boundaries and rock types were 'ground truthed' using a 1:1000 scale map by Axis Mining (1997) as a base. Numerous workings were located in the area immediately to the south of the ML, which has been described by previous explorers as having significant mineralisation potential. To the north of the ML, metasediments became more iron stained, particularly on top of the 'northern hill' where numerous copper stained adits, workings and drill holes were located. To the west of the ML, quartz feldspar porphyry dykes intrude metasediments which appear to be less iron stained than metasediments to the north and south.

4.3 Soil sampling

A detailed soil sampling program was conducted over the Mt Molloy ML & EPM during September 2007. The focus was to define further areas of mineralisation away from the main underground workings.

4.3.1 Method

A total of 303 soil samples were collected over a 50m x 50m soil sampling grid. Samples were collected from below the humic layer to a depth of ~20cm. Approximately a 500g sample was collected and sieved to 1/8 inch with some duplicate 200 micron samples taken to ensure quality of results. Samples were submitted to SGS laboratories in Townsville where they were pulverized to -75 microns and assayed for Au by method FAL 505 and for Ag, Cu, Pb, and Zn by method ICP 125.

4.3.2 Results

The program identified two significant areas of anomalism. A copper zone to the north-west of the mining lease over the Northern Hill, coincident with ferruginous and sometimes malachite stained siltstones in small pits and workings, and a gold zone to the south **(Figure 3.)** Both zones are "open" in their respective directions indicating further soil sampling is required to "close off" the anomalies. These zones coincide with surface expressions of mineralisation, identified by old pits and workings and in some places gossanous outcrop, which were located by Ozmin personnel in the previous term. This confirms that there is further potential for mineralisation along strike north and south from the old mine workings.

Expected copper and zinc anomalism is evident over zones of historical mining activity above the underground workings, however, significant gold anomalism is also apparent. Historical reports indicate no gold was mined at Mt Molloy, yet the presence of higher than background values both confined to and away from mining activity indicates further work identifying the source is necessary. Soil assays results can be located in **Appendix 1.**

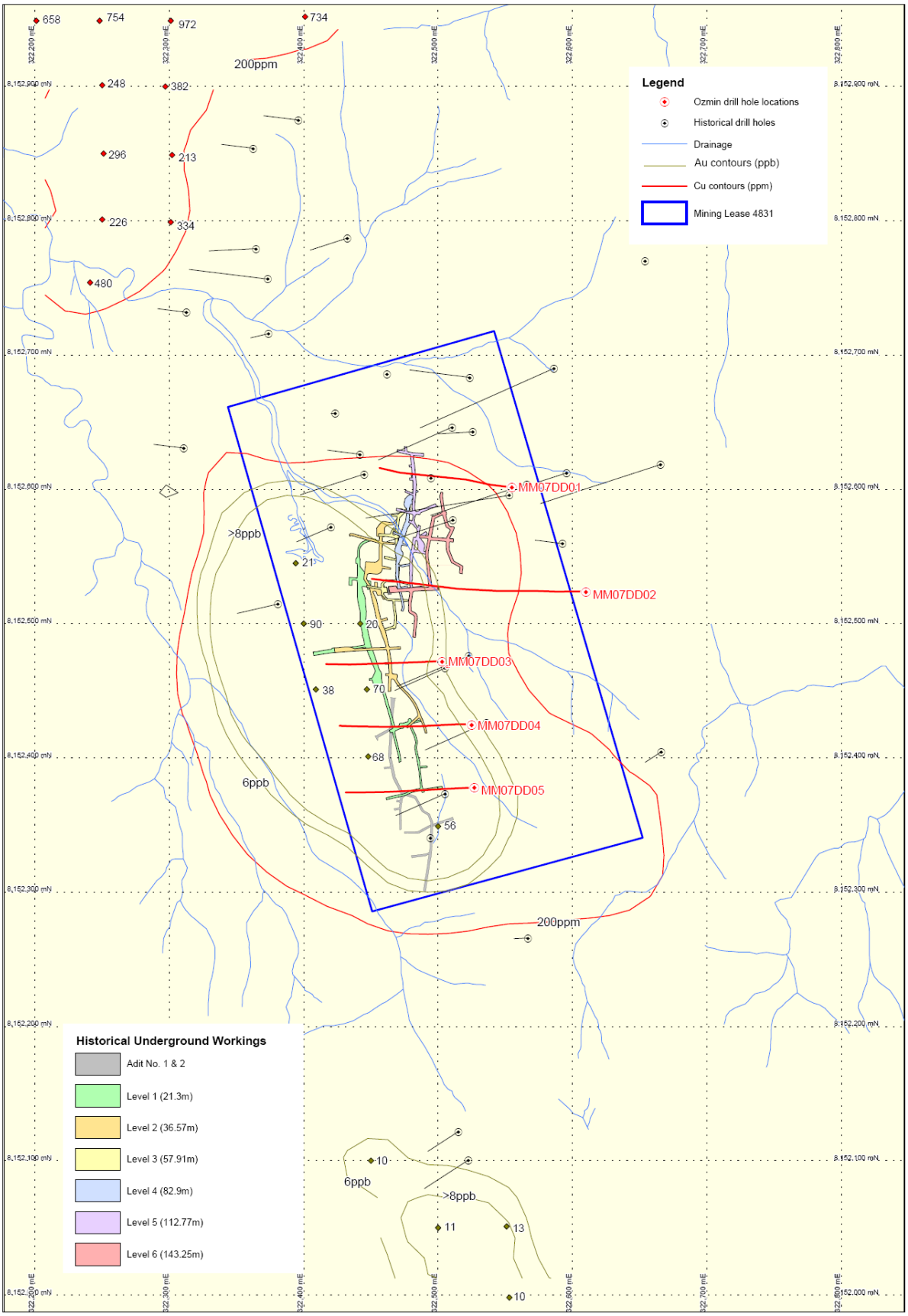

Figure 3. Mt Molloy project area showing soil copper >200ppm and gold >8ppm contours, historical underground workings and all recorded historical drilling

4.4 Drilling

The 2007 Mt Molloy drilling program consisted of five diamond drill holes (MM07DD01 – MM07DD05) testing down plunge and lateral extensions of the historical underground workings, within ML 4831 and EPM 12998. A total of 1025.20m of diamond drill core was completed by Associated Exploration Drillers (AED).

4.4.1 Drilling Method

Diamond holes were drilled HQ down to the base of oxidation and NQ once the rock became more competent. Down-hole surveys were taken at 50m depth intervals with an additional survey at the end of hole (EOH). Drill hole locations can be found in **Map 2 & Table 2.**

All geological/structural logging was preformed on site at Mt Molloy. All completed core was transported back to Townsville to be split ready for assay, with 1 m half core sample intervals sent to ALS Townsville and analysed for Au using Fire Assay Fusion AA26 method and for Ag, Al, As, B, Ba, Be, Bi, Ca, Cd, Co, Cr, Cu, Fe, Ga, Hg, K, La, Mg, Mn, Mo, Na, Ni, P, Pb, S, Sb, Sc, Sr, Ti, Tl, U, V, W, Zn, using ME-ICP 41 method **(Appendix 2).** Drill hole geological summary/interpretation and geochemical summary cross-sections can be found in **Appendix 3a– e.**

4.4.2 Drilling Rationale

The objective of the 2007 drilling program at Mt Molloy was:

1. To gain a greater understanding of the deposit scale geological and structural setting associated with massive sulphide mineralisation.
2. Systematically test for extensions of mineralisation along the lines of lode in areas of low density drilling.
3. Use drilling data to create a 3D surveyed model of the Mt Molloy deposit to further on-going exploration.

MM07DD01 – designed to test the northern extension of mineralisation between level 5 (112.77m) & level 6 (143.25m) approximately 125m below the surface. Previous drill holes PDH-6 and NPDH-4A, drilled vertical and oblique to section respectively, both intersected a wide zone of low grade zinc. PDH-6 intersected mineralisation within a dolerite sill 35-54m below the surface, and NPDH-4A within shales/siltstones 160-180m below the surface and the level 6 working.

MM07DD02 – designed to test the down plunge extension of mineralisation below level 6 (143.25m) and the main shaft approximately 180m below the surface. This ground has previously been untested by past explorers, with the closest mineralised intercepts 25m north (NPDH-5) and 50m south (MRC-3) of the main shaft.

MM07DD03 – designed to check below the deepest historical working (level 2 - 36.57m) approximately 60m below the surface. Past drill holes MRC-3 and DMM-1 intercepted 0.8% copper approximately 60m below the surface and 0.18% Cu, 0.27% Zn, 3.3g/t Ag approximately 80m below the surface, respectively. Both are spatially close to the proposed drill hole **(Map 2)**.

MM07DD04 – designed to test below the deepest historical working (level 2 – 36.57m) approximately 50-70m below the surface. This zone is previously untested with the closest drill hole, MRC-2 intercepting 20m @ 0.31% Cu, 0.18% Zn between 55-70m below the surface.

MM07DD05 – targeting below a previous intercept from MRC-1 (11m @ 0.56% Cu, 0.76% Zn) and the deepest historical working (level 1 - 21.33m).

Table 2. Drill hole survey information

Hole Id	GDA 94 Easting	GDA 94 Northing	RL (m)	Mag. Azim.	Dip (°)	EOH (m)	Comment
MM07DD01	322555	8152602	270	263	-60	201.50	Testing northern extension of mineralisation between level 5 & 6
MM07DD02	322610	8152524	270	263	-60	279.50	Testing down plunge extension of mineralisation below level 6 and main shaft
MM07DD03	322503	8152472	270	263	-60	168.40	Targeting down plunge extension of mineralisation below deepest level (2) working. DMM-1 & MRC-3 (oblique to section) intersected mineralisation 10m up to 0.8% Cu and 1% Zn
MM07DD04	322525	8152425	270	263	-60	192.40	Testing below deepest level (2) working within a previously untested zone
MM07DD05	322520	8152378	270	263	-60	183.40	Testing below previous intersection from MRC-1 (16m @ 0.56% Cu, 0.76% Zn) & old level 1 working
					TOTAL	1025.20	

4.4.3 Results

4.4.3.1 Assays

Of the five diamond drill holes, only MM07DD03 returned significant copper and zinc assay results (43m @ 0.42% Cu and 0.23% Zn). MM07DD04 and MM07DD05 intercepted lower grade copper and zinc mineralisation evident as replacement styles mainly within and arenaceous units and small stockwork quartz sulphide veinlets. No massive sulphide mineralisation was intercepted. Drill holes MM07DD01 and MM07DD02 did not intersect any significant copper mineralisation; however a small zinc halo was apparent near the top of MM07DD01 and at depth in MM07DD02. See table below for full list of significant intercepts.

Table 3. Significant drill hole intercepts (Ozmin)

Hole ID	From Depth (m)	To Depth (m)	Significant Intercepts
MM07DD01	151	164	14m @ 0.22% Zn incl. 2m @ 2.35g/t Ag
MM07DD02	184	187	4m @ 0.42% Zn incl. 2m @ 0.15% Cu from 186m
MM07DD03	30	72	43m @ 0.4% Cu, 0.23% Zn
Incl.	41	42	2m @ 1.39% Cu & 0.09% Zn
Incl.	65	70	6m @ 1.1% Cu & 0.22% Zn
MM07DD04	27	32	6m @ 0.2% Zn
	142	144	3m @ 0.18% Cu
	173	176	4m @ 4 g/t Ag & 0.14% Zn
MM07DD05	77	79	3m @ 0.23% Cu & 3.2 g/t Ag
	137	139	3m @ 0.3% Cu & 2.3 g/t Ag

4.4.3.2 Structural analysis

The Late Devonian – early Carboniferous Molloy beds have been interpreted as a fault bounded package of rhythmically interbedded shale, mudstone and sandstone, with later dolerite sills and quartz-feldspar porphyry. The currently accepted interpretation of the Molloy beds is as a deep marine turbidite sequence which may represent a late depositional stage within the Hodgkinson Formation.

Previous structural interpretation by Cranfield and Hegarty (1989) concluded the Molloy beds have only seen one deformational episode, correlative with the first province wide (D_2) event during the very Late Devonian or early Carboniferous. However, McNeich (2006) found that a more complex structural history is apparent, evidenced by two generations of structures.

The aim of the analysis was to provide a structural interpretation of the Molloy beds as a means of gaining a greater understanding of the deposit scale geological and structural setting, associated with massive sulphide mineralisation. This was achieved by plotting

structural data onto stereographic projections, rose diagrams, x-sections and viewing the data in 3D.

Structural data was collected in the field from diamond drill core by measuring the alpha and beta angles of planar features. The alpha and beta angles were processed using GeoCal32_49 to convert them into a dip and dip direction. Data was imported into StereoWin 1.2 and Georient32v9 to produce stereonet plots displaying structural trends for bedding (S_0), foliation (S_1), quartz-carbonate and sulphide bearing veins.

The structural data indicates that drill holes MM07DD01-MM07DD05 have seen one phase of deformation evidenced by a slaty cleavage (S_1) (remobilised (?) pyrite) and small, localised, gentle-moderate folding.

Bedding is shown to dip moderate-steep east-northeast, confirming previous workers results.

Vein orientation is generally disconcordant to bedding although dip angles are similar to S_1.

Mineralisation based on historical underground working locations appears to correlate with bedding orientations, conforming to a stratabound VHMS model which dips moderate-steeply to the east north-east.

The orientation of S_1 is similar to bedding; making a plausible argument that mineralisation could be remobilised, associated with this fabric. The intersection of S_0 and S_1 produces a lineation (L_1) which plunges north shallowly at ~ 19°. L_1 appears co-linear with the fold axes of F_1 which plunge northerly, based on work by McNeich (2006) and previous company reports by Axis Mining N.L (1998). The mineralised horizon is thus closer to the surface towards the southern end, and deeper towards the north. Mineralisation based on previous drill hole assay results appears to terminate north of the underground workings – a fault may be responsible for this termination. A fault has not been located on the ground due to limited outcrop exposure.

Table 4. Mean dip and dip direction for all structures collected from drill holes MM07DD01-MM07DD05

Hole Id	Bedding (S_0)	Qtz-carbonate Veins	Qtz-sulphides Veins	Foliations (S_1)
MM07DD01				
Dip-dip dirn	52-086	81-024	82-036	73-101
MM07DD02				
Dip-dip dirn	56-083	52-031	68-083	68-084
MM07DD03				
Dip-dip dirn	54-072	66-058	67-271	71-087
MM07DD04				
Dip-dip dirn	50-068	88-018	89-262	71-075
MM07DD05				
Dip-dip dirn	67-074	80-022	73-055	80-068
AVERAGE	56-076	73-030	76-141	72-083

4.4.3.3 Petrology

Ozmin commissioned Dr Roger Taylor to investigate host rocks, paragenesis, mineralisation and genetic aspects via examination of thirteen (13) samples from diamond drill hole MM07DD05. Of the thirteen samples analysed, six were of igneous origin, comprising essentially porphyritic basalt/dolerite that are extremely altered (sericite-illite-clay) and appear to be narrow sills. The remaining rocks are a sequence of well layered mildly metamorphosed sediments now represented as meta-pelites, meta-arenites, and meta-greywacke.

The summary paragenetic sequence is presented in **Table 4**.

Table 4. Paragenetic sequence of samples taken from drill hole MM07DD05

Early	Quartz veins	(very early-minor)
	Sulphide stage ± quartz	(Veins and along permeable sandy horizons). (Pre-cleavage).
	Sericite/illite ± TiO_2 compounds clay, chlorite	(Difficult to time could be with tectonism, and/or earlier??
Cleavage - development	Clay	(Late veins – brittle fracture post cleavage).
	Carbonate ± quartz	
Late	Clay	(Clay alteration is widespread within the igneous units – suspect more than one generation).

Mineralisation occurs in several formats consisting of pyrite accompanied/associated with variable minor amounts of chalcopyrite, sphalerite and more rarely galena and pyrrhotite(in descending abundance). This suggests one major stage of sulphide introduction. The various sulphide formats are interpreted to represent:

1. Vein styles. Veinlet style – small stockwork zones. Quartz sulphide veins. Formed via brittle fracture of consolidated rock.
2. Replacement/permeability styles.
   (a) Within arenaceous units. Occurring as sulphide (pyrite spots) within narrow originally sandy, arkosic?, layers. Some small cracks with sulphide content are noted, but layer parallel spotting is the dominant format.
   (b) Within suspected fine grained carbonate units, as densely packed pyrite grains. Carbonate replacement?

Based on the petrological review from drill hole MM07DD05, it is clear that mineralisation is pre deformation and that pyrite dominates the sulphide assemblage. One phase of sulphide introduction is probable yet the relationship to a VHMS system is still unclear as massive sulphide mineralisation was not intersected in any of the drill holes drilled by Ozmin.

The full report can be viewed in **Appendix 4**.

4.4.4 Conclusions

One of the main aims of the 2007 drilling program was to systematically test for extensions of mineralisation along the lines of lode in areas of low density drilling. The five diamond drill holes achieved this aim and proved that significant massive sulphide mineralisation does not exist down plunge or at greater depths than what has previously been mined. Structural analysis from drill core indicates that mineralisation appears to correlate with bedding orientations, conforming to a stratabound model. Dr Taylor confirms this in his report, stating mineralisation is pre deformation, appears to be dominated by pyrite and suggests that only one major stage of sulphide introduction is probable.

Mineralisation is interpreted to have been faulted downwards to the south-west by a north-east south-west striking fault with both strike-slip and dip-slip components which possibly dips to the south-east (Map 2). This fault has not been observed at surface however this does not rule out its presence at depth.

5.0 Discussion

The basin containing the Mt Molloy deposit has been described as ‘open to the south’ by previous exploration companies. Soil sampling and field reconnaissance has verified that mineralisation does exist to the south beyond the limits of the ML, evidenced by semi-continuous gossanous outcrop and old workings. However, mineralisation also extends to the north confirmed by anomalous copper in soils and copper stained adits and workings. The northern extension does not appear to correlate with sulphide lenses which form the Mt Molloy deposit as they are clearly isolated from the historical mining activity.

The diamond drilling program has achieved its aim to systematically test for extensions of mineralisation along lines of lode in areas of low density drilling, below the deepest historical level working. The assay results indicate that economic mineralisation does not exist below the deepest level workings. The structural analysis conducted by Ozmin combined with the petrological review indicate that mineralisation is stratabound, dominated by pyrite, and contained within stockwork quartz veinlets and as replacement within host sediments.

The Mt Molloy deposit appears to be structurally complicated with folding and an inferred fault disrupting earlier formed stratabound mineralisation. Further analysis of the role structures have on mineralisation will assist further exploration.

6.0 Recommendations

1. Implement exploration program outlined below

- *Geochemistry*
  Follow-up soil sampling to the north-west over the ‘Northern Hill’ and to the south to close off soil anomalies.

- *Geological/structural Mapping*
  A detailed mapping program (1:2000 scale) immediately to the north and south of the ML to help correlate soil anomalism with geological features. The focus should be mapping structural features, bedding, foliation and veins at surface.

- *3D modelling*
  Further modelling using 3D software incorporating structural interpretations from detailed surface mapping.

- *IP survey*
  A systematic dipole-dipole IP/resistivity survey should be considered on targets away from the ML once the soil anomalies are closed off and mapping completed.

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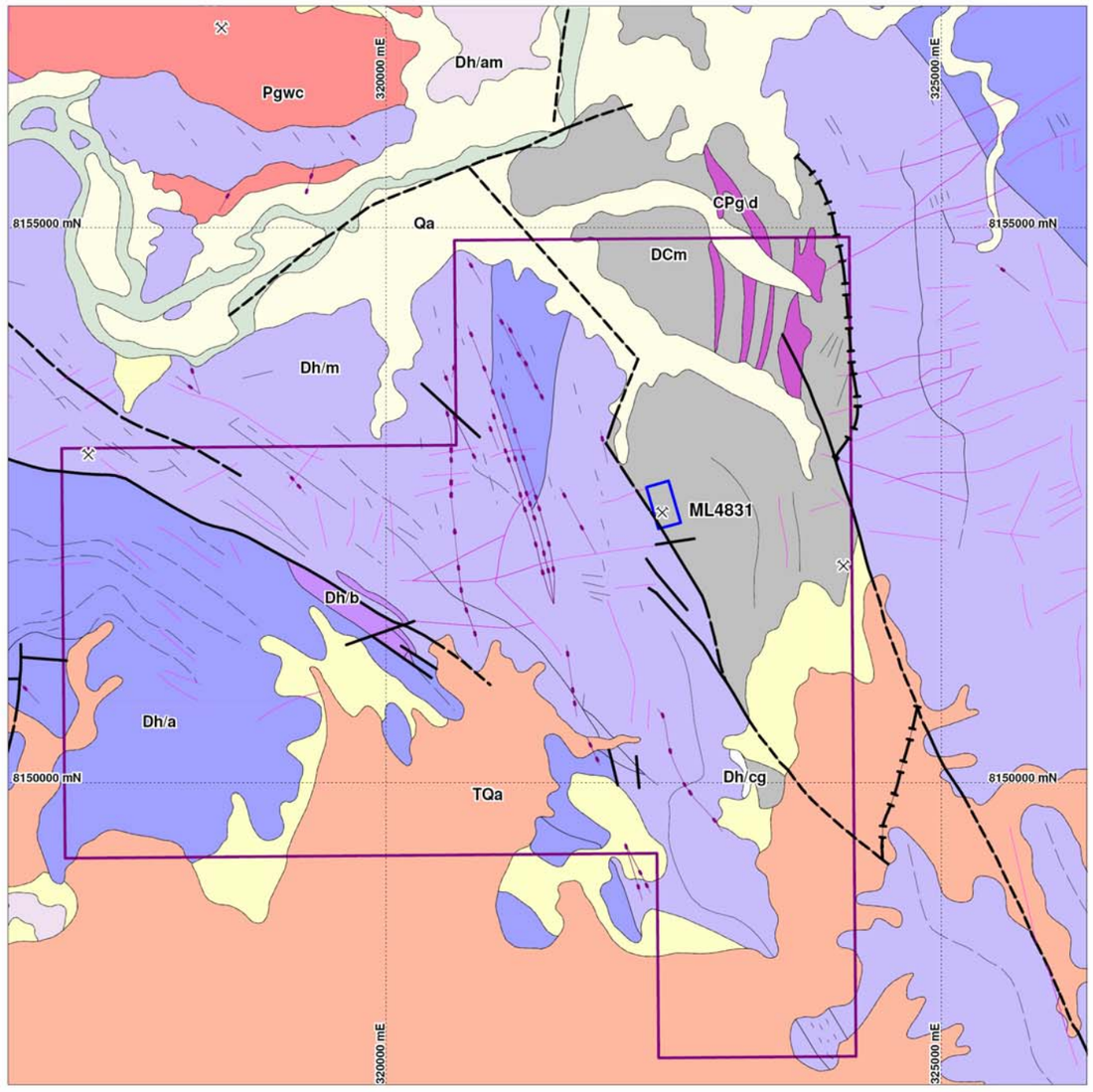


MT MOLLOY PROJECT
GEOLOGY

Quarternary

- **Qf** — *Rock debris, soil (mainly sheetwash deposits)*
- **Qa** — *Sand, gravel, silt, clay; flood-plain alluvium and outwash deposits*
- **Qha** — *Sand, gravel (sediments in present stream bed)*

Tertiary - Quarternary

- **TQa** — *Sand, silt, mud and gravel; high-level alluvium and colluvium*

Permian

- **Pgwc** — **Mount Carbine Granite** *White, medium to coarse-grained, equigranular to sparsely porphyritic (muscovite-) biotite adamellite; subordinate muscovite-rich granite*

Carboniferous - Permian

- **CPg\d** — *Dolerite*

Late Devonian to early Carboniferous

- **DCm** — **Molloy beds** *Fine-medium grained arenite, siltstone, claystone*

Early to Late Devonian

Hodgkinson Formation

- **Dh/b** — *Dark greenish grey, fine-grained metabasalt; minor flow-margin breccia*
- **Dh/am** — *Rhythmically interbedded fine to medium-grained arenite and mudstone (locally phyllitic); minor conglomerate, minor chert and metabasalt; rare limestone*
- **Dh/m*** — *Mainly dark grey, thin bedded, mudstone, subordinate thin to thick bedded arenite beds, minor chert and basalt*
- **Dh/a*** — *Pale to dark or greenish grey, fine to medium and locally coarse-grained, quartz intermediate greywacke, interbedded with minor siltstone and mudstone; minor conglomeratic greywacke*

- Chert Bands
- Dyke or Vein
- Fault Accurate
- Fault Approximate
- Fault Inferred / Concealed
- Geological Boundary Approximate / Inferred
- Geological Boundary Accurate
- Lineament
- Shear Zone
- Transitional Boundary
- Trend Line
- Wide Broken Formation / Melange Zone
- Wide Shear Zone

LEGEND

- Mineral occurence
- ML 4831
- EPM 12998

N

0 1 2

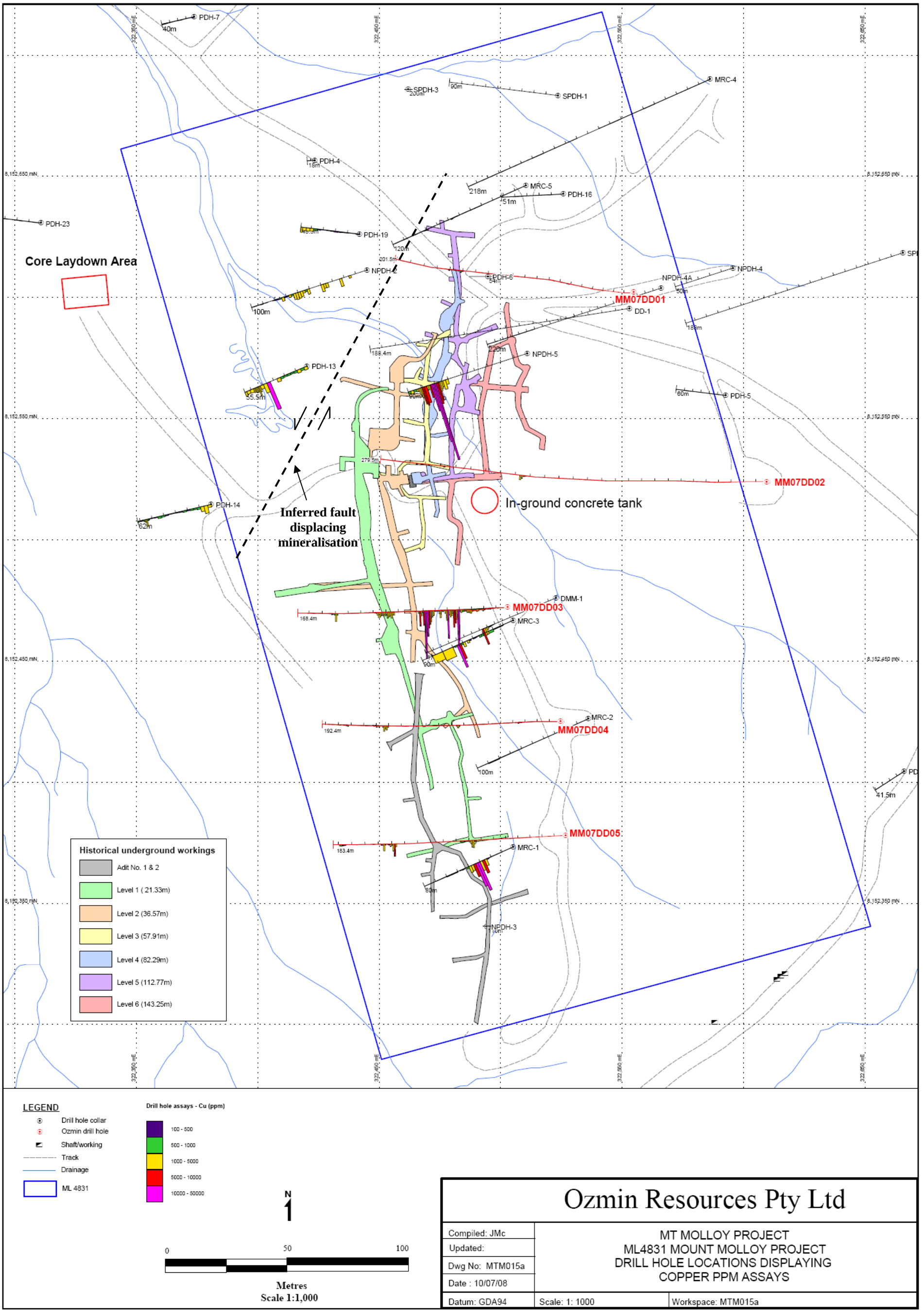
Kilometers

1:50,000

Ozmin Resources Pty Ltd

Compiled: JM	MT MOLLOY PROJECT EPM 12998 MOUNT MOLLY GEOLOGY	
Updated: 11/05/07		
Dwg No: MTM005c		
Date : 23/02/07		
Datum: GDA94	Scale: 1: 50 000	Workspace: MTM005c_Geology.wor

Map 1. EPM 12998, Mt Molloy project geological map



Map 2. Drill hole locations displaying copper (ppm) assays for all holes with available data. Inferred north-east south-west striking fault displacing massive sulphide mineralisation downwards to the south-east.